

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 041829WOHigo	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/EP2004/008144	International filing date (day/month/year) 21.07.2004	Priority date (day/month/year) 21.07.2003
International Patent Classification (IPC) or national classification and IPC C12M1/12, C12M3/06, C12Q1/02		
Applicant ALGENION GMBH & CO. KG		

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>7</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>																									
<p>4. This report contains indications relating to the following items:</p> <table><tr><td><input checked="" type="checkbox"/></td><td>Box No. I</td><td>Basis of the report</td></tr><tr><td><input checked="" type="checkbox"/></td><td>Box No. II</td><td>Priority</td></tr><tr><td><input type="checkbox"/></td><td>Box No. III</td><td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td></tr><tr><td><input type="checkbox"/></td><td>Box No. IV</td><td>Lack of unity of invention</td></tr><tr><td><input checked="" type="checkbox"/></td><td>Box No. V</td><td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VI</td><td>Certain documents cited</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VII</td><td>Certain defects in the international application</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VIII</td><td>Certain observations on the international application</td></tr></table>		<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input checked="" type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand	Date of completion of this report																								
Name and mailing address of the IPEA/EP	Authorized officer																								
Facsimile No.	Telephone No.																								

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Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

- ☐ international search (Rule 12.3 and 23.1(b))
☐ publication of the international application (Rule 12.4)
☐ international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

☐ the international application as originally filed/furnished

☒ the description:

pages 1-13 as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☒ the claims:

nos. 1-17 as originally filed/furnished

nos.* _____ as amended (together with any statement) under Article 19

nos.* _____ received by this Authority on _____

nos.* _____ received by this Authority on _____

☒ the drawings:

sheets 1/2-2/2 as originally filed/furnished

sheets* _____ received by this Authority on _____

sheets* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. II Priority

1. ☒ This report has been established as if no priority had been claimed due to the failure to furnish within the prescribed time limit the requested:
- ☒ copy of the earlier application whose priority has been claimed (Rule 66.7(a)).
- ☐ translation of the earlier application whose priority has been claimed (Rule 66.7(b)).
2. ☐ This report has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rule 64.1). Thus for the purposes of this report, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	<u>2, 3, 7, 11, 15</u>	YES
	Claims	<u>1, 4-6, 8-10, 12-14, 16, 17</u>	NO
Inventive step (IS)	Claims	<u></u>	YES
	Claims	<u>1-17</u>	NO
Industrial applicability (IA)	Claims	<u>1-17</u>	YES
	Claims	<u></u>	NO
2. Citations and explanations (Rule 70.7)			
1 This report makes reference to the following documents:			
D1: WO 90/02170 A (SECRETARY TRADE IND BRIT) 8 March 1990 (1990-03-08)			
D2: US-A-2 761 813 (ALEXANDER GOETZ) 4 September 1956 (1956-09-04)			
D3: US-A-4 600 694 (CLYDE ROBERT A) 15 July 1986 (1986-07-15)			
2 The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 1, 2, 4-6, 8-10, 12-14, 16 and 17 is not novel (PCT Article 33(2)).			
2.1 D1 discloses a process and a device for culturing plant and animal cells (cf. page 1, line 3). An internal flow-through channel is formed by a surrounding porous membrane (cf. figures 1-3 and page 2, line 36 to page 3, line 4). The membrane (13) is permeable to liquid flowing through the channel (11) along the "second main face", but not to microorganisms (20) applied to the "first main			

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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face". Further, the device described in D1 discloses a second carrier with a first and a second main surface, wherein the respective second main surfaces of the two carriers are arranged so as to face each other and to run substantially parallel to each other and the liquid flows between the main surfaces in contact therewith.

D1 is considered prejudicial to the novelty of claims 1, 4-6, 8, 9, 12, 13, 16 and 17.

- 2.2** D2 discloses (column 2, line 26 to column 3, line 36; column 6, line 60 to column 7, line 14; figures 1, 2 and 7-10) a process and a device for culturing microorganisms of any kind (column 1, lines 18-23). The device has a carrier (2), consisting of a hydrophilic cellulose ester membrane, which is impermeable to microorganisms and on whose "first main surface" the microorganisms are arranged (see, for example, figures 7-9). The "second main surface" contacts a distributor layer (5) which consists of a porous material, such as filter paper, and acts to convey and supply an aqueous nutrient solution.

The use of the device in D as a biosensor is documented in detail (figures 7-10; the device is used for investigations of colorants, antibiotics, etc.).

D2 is therefore considered prejudicial to the novelty of claims 8, 10, 12, 14, 16 and 17.

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Observations:

- (i) The subject matter of claim 12 ("biosensor") does not disclose any technical features which distinguish the biosensor from the device according to claim 8.
- (ii) The wording "a film having an aqueous solution, said film contacting the second main surface of the carrier only and flowing along said surface" (claim 8) does not describe a technical feature of the device. Rather, it describes a possible method of using the device which, however, does not affect the scope of protection of the device *per se*.

2.3 Reference is also made here to the search report citations, which are prejudicial to the novelty of the independent claims.

3 The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 2, 3, 7, 11 and 15 does not involve an inventive step within the meaning of PCT Article 33(3).

3.1 The presence of a distributor layer above the "second main surface" (claim 2) is known from D2 (cf. 2.2 above).

3.2 Harvesting microorganisms (including algae) from a perforated surface using mechanical forces (claim 7) is known from the prior art (see D3, column 2,

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line 44 to column 3, line 29 in conjunction with figure 1).

- 3.3** The extent to which claims 3, 11 and 15 contain features which, in combination with the features of any claim to which they refer back, meet the PCT requirements for inventive step is not presently discernible.